

ON OCTOBER 4, 1957, THE SOVIET UNION SENT THE FIRST ARTIFICIAL EARTH SATELLITE INTO SPACE.

THIS IS A GREAT SOVIET ACHIEVEMENT!

DID YOU KNOW?

IN RESPONSE TO THE LAUNCHING OF THE SATELLITE, THE U.S CONGRESS ESTABLISHED THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA) IN 1958, SIGNALING THE START OF THE SPACE RACE!



JAMES E. WEBB, THE NASA ADMINISTRATOR AT THE TIME, BELIEVED IT WOULD COST APPROXIMATELY \$22 BILLION TO PUT A MAN ON THE MOON. WALAO EH, THAT'S A LOT OF MONEY!

DID YOU KNOW?

WE CHOOSE
TO GO TO
THE MOON!

Picture Credit: NASA

A MONTH AFTER THE SOVIET UNION SENT THE FIRST HUMAN INTO SPACE - ON MAY 25, 1961 - PRESIDENT JOHN F. KENNEDY PROPOSED TO CONGRESS THE GOAL OF LANDING A MAN ON THE MOON WITHIN THE DECADE.

LISTEN TO PRESIDENT KENNEDY'S SPEECH TO CONGRESS VIA THIS QR CODE!



ONE SMALL
STEP...

Neil Armstrong

LET'S MAKE
HISTORY.

Michael Collins

WE'RE THE
LEGENDARY
TRIO!

Buzz Aldrin



DID YOU KNOW

THE ORIGINAL APOLLO 11
COMMAND MODULE PILOT WAS
ACTUALLY JIM LOVELL, BUT HE
MOVED TO APOLLO 8 AND WAS
REPLACED BY MICHAEL COLLINS.

ON NOVEMBER 20, 1967, COMMANDER NEIL ARMSTRONG, COMMAND MODULE PILOT MICHAEL COLLINS AND LUNAR MODULE PILOT EDWIN "BUZZ" ALDRIN WERE CHOSEN FOR THE MOON LANDING MISSION.

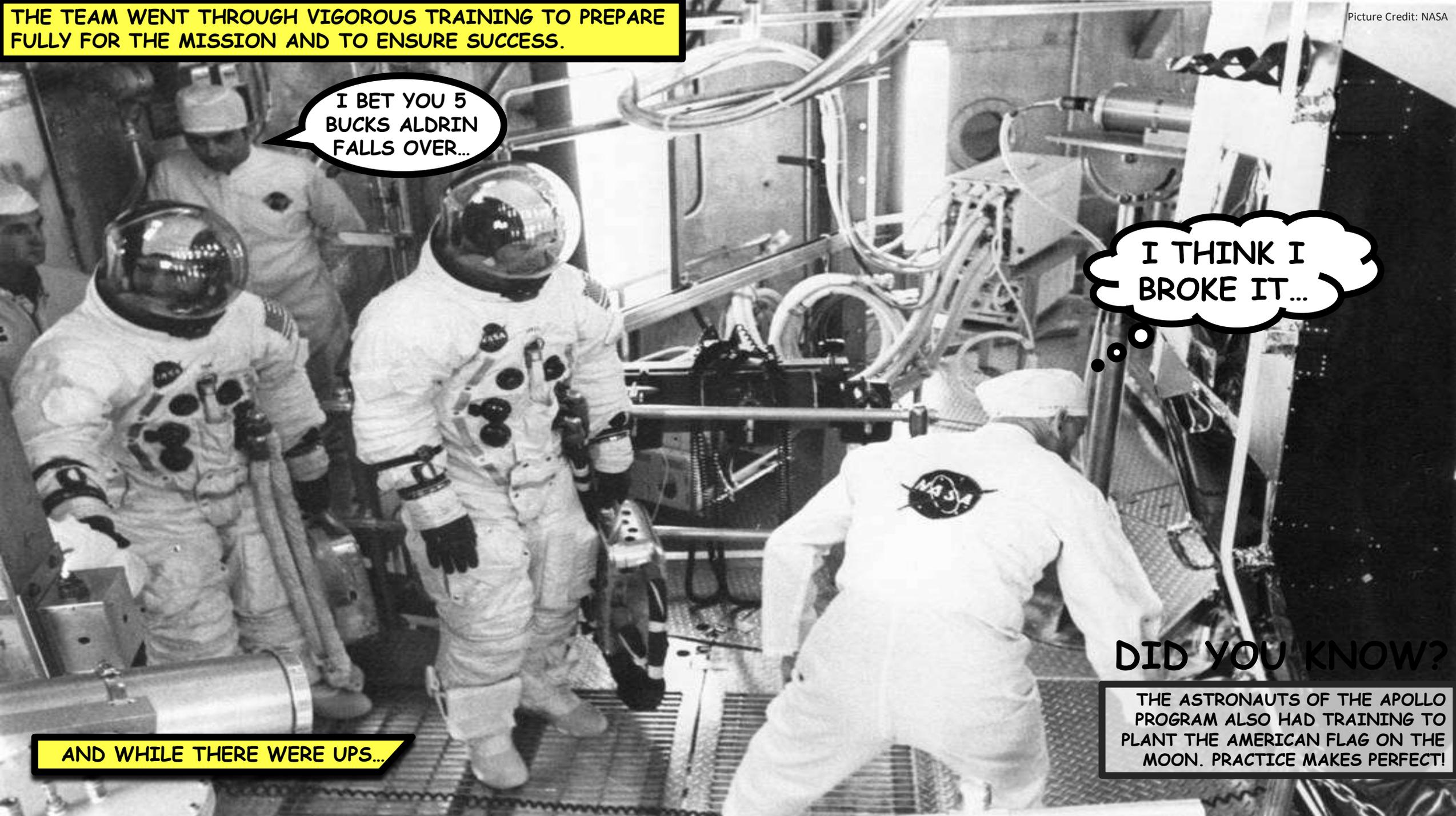
THE TEAM WENT THROUGH VIGOROUS TRAINING TO PREPARE FULLY FOR THE MISSION AND TO ENSURE SUCCESS.

I BET YOU 5 BUCKS ALDRIN FALLS OVER...

I THINK I BROKE IT...

AND WHILE THERE WERE UPS...

DID YOU KNOW?
THE ASTRONAUTS OF THE APOLLO PROGRAM ALSO HAD TRAINING TO PLANT THE AMERICAN FLAG ON THE MOON. PRACTICE MAKES PERFECT!



THERE WERE ALSO DOWNS...

THE SATURN V SPRANG A LEAK JUST BEFORE THE APOLLO 11 LAUNCH, BUT IT WAS QUICKLY REPAIRED BY A TEAM OF ENGINEERS. HOW SCARY!

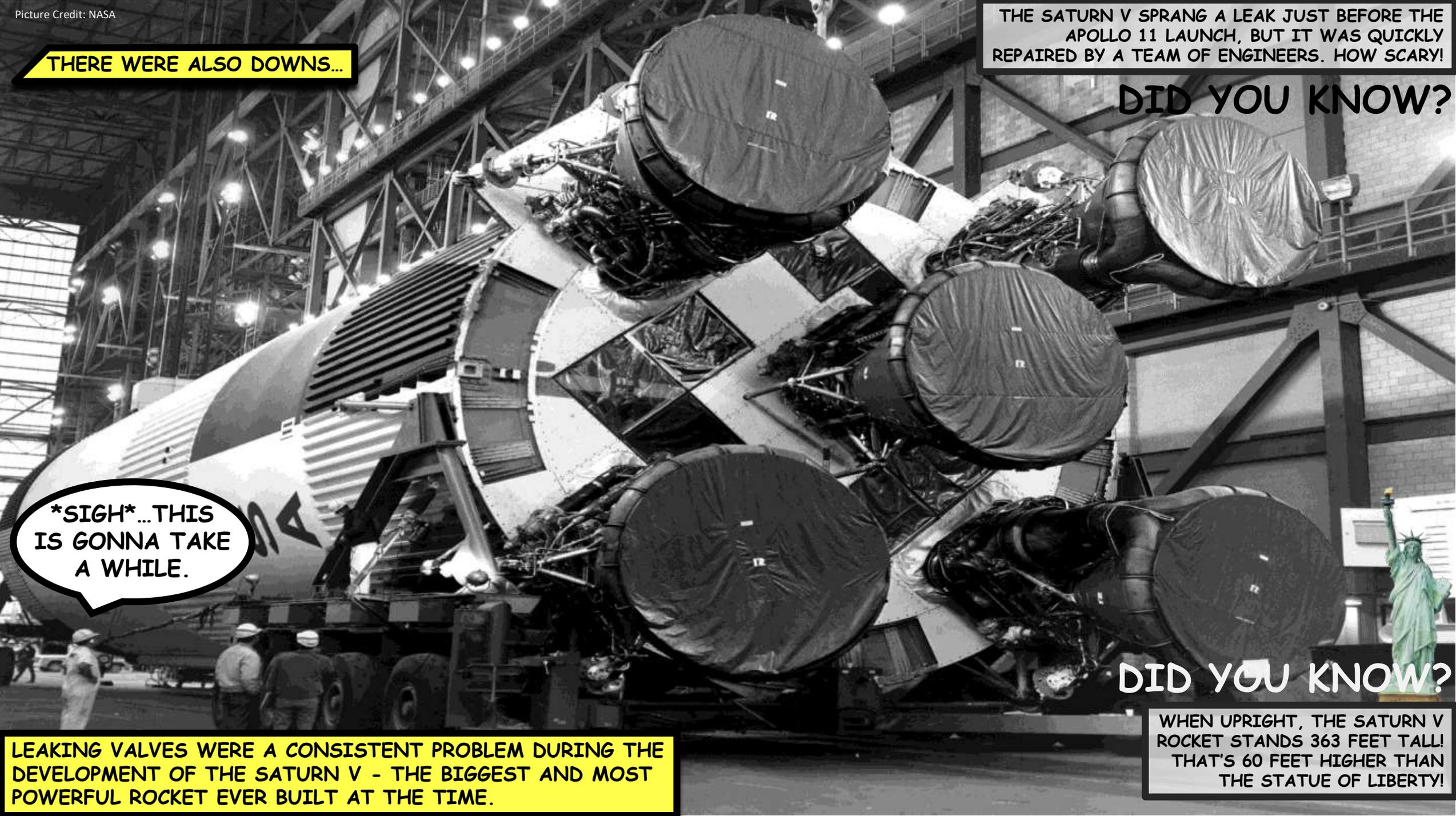
DID YOU KNOW?

***SIGH*...THIS IS GONNA TAKE A WHILE.**

LEAKING VALVES WERE A CONSISTENT PROBLEM DURING THE DEVELOPMENT OF THE SATURN V - THE BIGGEST AND MOST POWERFUL ROCKET EVER BUILT AT THE TIME.

DID YOU KNOW?

WHEN UPRIGHT, THE SATURN V ROCKET STANDS 363 FEET TALL! THAT'S 60 FEET HIGHER THAN THE STATUE OF LIBERTY!



THROUGH HARD WORK AND DETERMINATION, THE SATURN V ROCKET LAUNCHED FROM THE KENNEDY SPACE CENTER IN FLORIDA ON JULY 16, 1969. CHECK OUT THE VIDEO OF THE ROCKET LAUNCH THROUGH THIS QR CODE!



DID YOU KNOW?

THE APOLLO 11 ROCKET LIFTED OFF FROM LAUNCHPAD 39A, WHICH TOOK OVER 4 YEARS TO BUILD. IT IS NOW BEING USED FOR SPACEX PROGRAMS!

DID YOU KNOW?



THE LARGE ENGINES THAT ROCKETDYNE BUILT FOR THE SATURN V ROCKET'S FIRST STAGE BURNED 3 TONS OF FUEL PER SECOND! YOU COULD FILL A PROTON SAGA 75 TIMES WITH THAT MUCH FUEL!

DID YOU KNOW?

IN ORDER TO TRACK THE MILLIONS OF PARTS USED TO BUILD THE SATURN V ROCKET, IBM DEVELOPED A DATABASE SYSTEM (LATER RENAMED THE INFORMATIONAL MANAGEMENT SYSTEM OR IMS) THAT LATER EVOLVED TO SUPPORT THE TRACKING OF FINANCIAL TRANSACTIONS WORLDWIDE AND THE DEVELOPMENT OF ATMS.



THE MOON LANDING PLAYED A PIVOTAL ROLE IN SPARKING AN INTEREST IN STEM (SCIENCE, TECHNOLOGY, ENGINEERING, MATH) EDUCATION AROUND THE WORLD TODAY!

DID YOU KNOW?



AT LEAST 600 MILLION PEOPLE FROM ALL WALKS OF LIFE ACROSS THE GLOBE WERE GLUED TO THEIR TELEVISION SETS TO WATCH THE HISTORIC EVENT UNFOLD!

THEY DID IT! A FEW DAYS LATER, THEY SUCCESSFULLY LANDED THEIR LUNAR MODULE ON THE MOON ON JULY 20, 1969!

Picture Credit: NASA

NEIL ARMSTRONG'S FAMOUS "THAT'S ONE SMALL STEP FOR MAN, ONE GIANT LEAP FOR MANKIND" QUOTE WAS TRANSMITTED ON RADIO EQUIPMENT MANUFACTURED BY MOTOROLA, WHICH IS THE COMPANY THAT PRODUCED THE FIRST EVER HANDHELD MOBILE PHONE! *RING RING*

DID YOU KNOW?

IS THAT A SIZE 13?

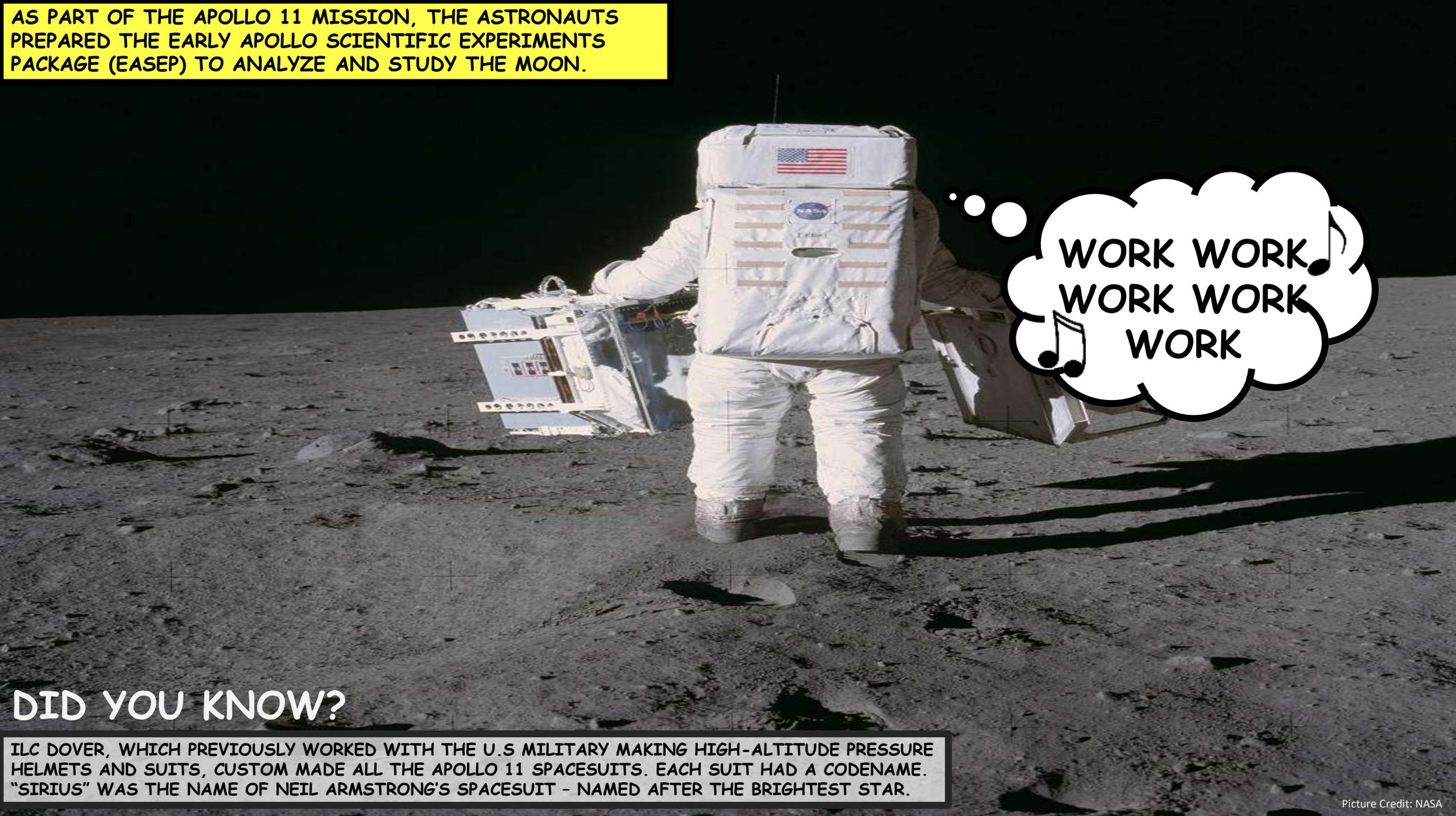
DID YOU KNOW?

THE MOON CAN GET REALLY HOT IN THE DAY AND REALLY COLD AT NIGHT, REACHING TEMPERATURES AS HIGH AS 107 DEGREES CELSIUS IN THE DAY AND -153 DEGREES CELSIUS AT NIGHT!

SCAN THIS QR CODE TO WATCH FOOTAGE OF NEIL ARMSTRONG AND HEAR HIS FAMOUS QUOTE WHEN HE STEPPED ON THE MOON!



AS PART OF THE APOLLO 11 MISSION, THE ASTRONAUTS PREPARED THE EARLY APOLLO SCIENTIFIC EXPERIMENTS PACKAGE (EASEP) TO ANALYZE AND STUDY THE MOON.



**WORK WORK
WORK WORK
WORK**

DID YOU KNOW?

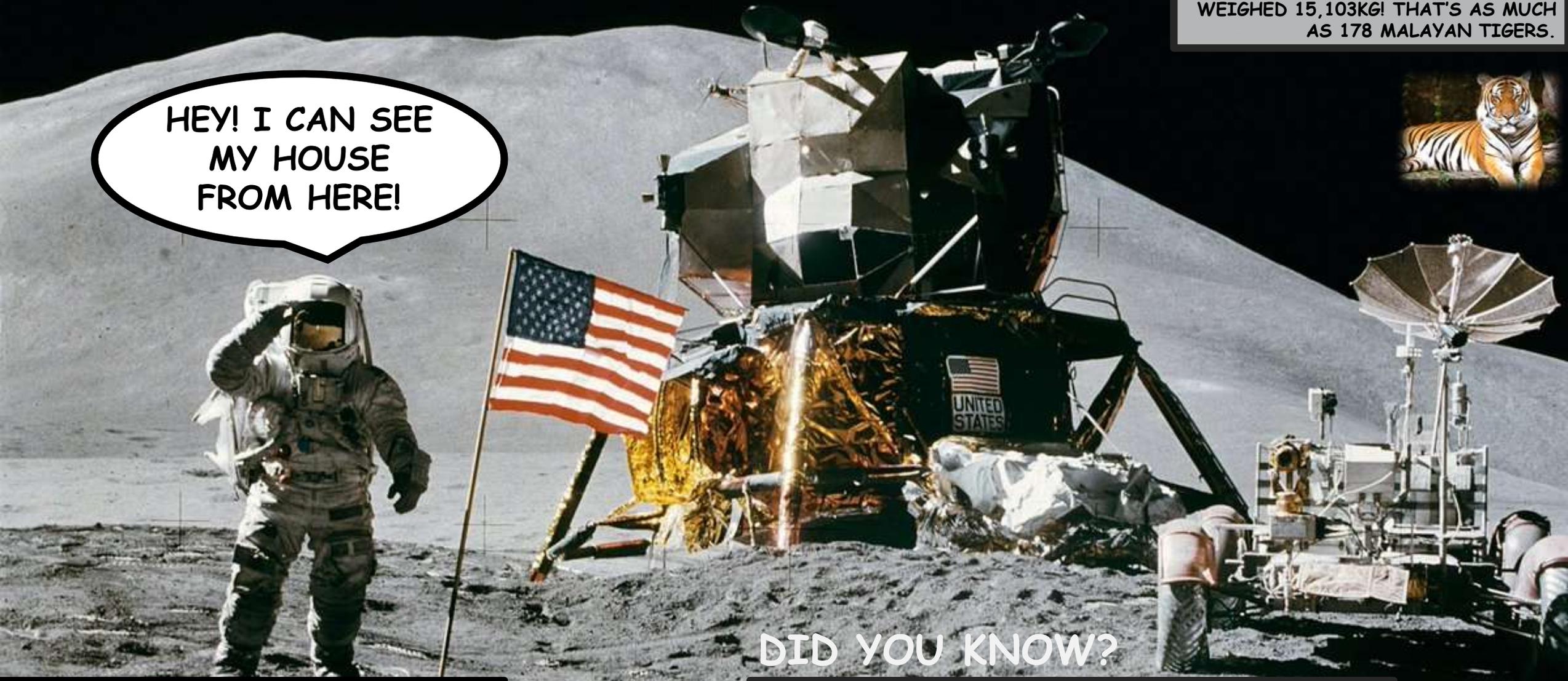
ILC DOVER, WHICH PREVIOUSLY WORKED WITH THE U.S MILITARY MAKING HIGH-ALTITUDE PRESSURE HELMETS AND SUITS, CUSTOM MADE ALL THE APOLLO 11 SPACESUITS. EACH SUIT HAD A CODENAME. "SIRIUS" WAS THE NAME OF NEIL ARMSTRONG'S SPACESUIT - NAMED AFTER THE BRIGHTEST STAR.

DID YOU KNOW?

THE LUNAR MODULE, MADE BY GRUMMAN AEROSPACE CORPORATION, WEIGHED 15,103KG! THAT'S AS MUCH AS 178 MALAYAN TIGERS.



HEY! I CAN SEE MY HOUSE FROM HERE!

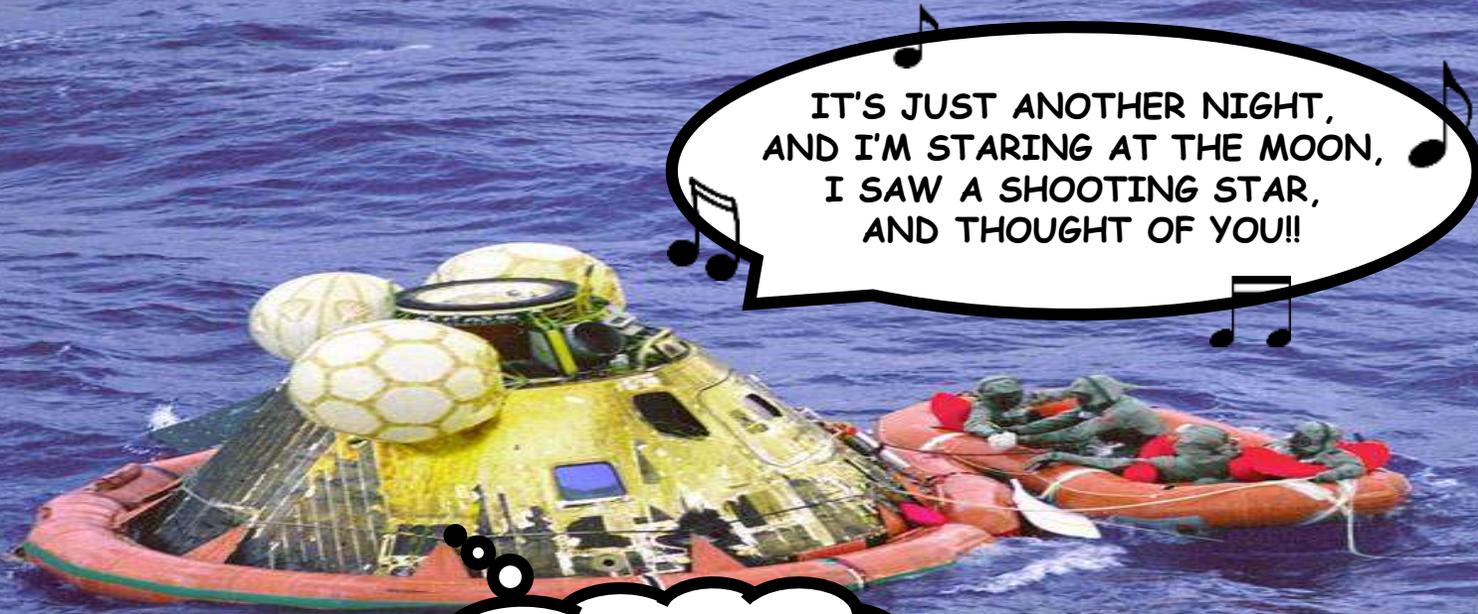


WHEN IT WAS TIME TO LEAVE, THE ASTRONAUTS PACKED UP THEIR PRECIOUS MOON SAMPLES AND HEADED HOME.

DID YOU KNOW?

THE LUNAR ROVING VEHICLE, MADE BY GENERAL MOTORS AND BOEING, COST A STAGGERING RM155 MILLION. YOU COULD BUY 120,000 NINTENDO SWITCH UNITS WITH THAT MUCH MONEY!

ON JULY 24, 1969, THE TEAM MANAGED TO PARACHUTE THEIR SPACECRAFT INTO THE PACIFIC OCEAN (10°36'N 172°24'E) WHERE THEY WERE PICKED UP BY THE USS HORNET AIRCRAFT CARRIER.



IT'S JUST ANOTHER NIGHT,
AND I'M STARING AT THE MOON,
I SAW A SHOOTING STAR,
AND THOUGHT OF YOU!!

THAT'S THE 10TH
TIME... *SIGH*

DID YOU KNOW?



THE USS HORNET, UNDER THE COMMAND OF CAPTAIN CARL J. SEIBERLICH, WAS SELECTED AS THE PRIMARY RECOVERY SHIP TO RETRIEVE THE APOLLO 11 ASTRONAUTS UPON THEIR RETURN TO EARTH.

BACK HOME, THE APOLLO 11 TEAM WERE CELEBRATED NOT ONLY AS AMERICAN HEROES, BUT HEROES OF EVERYONE AROUND THE WORLD!



ASTRONAUTS WALK MOON'S SURFACE

Lunar landing a triumph of the human spirit



Pope Paul exclaims with joy

Boulders danger



MAN ON THE MOON

ASTRONAUTS LAND ON PLAIN; COLLECT ROCKS, PLANT FLAG



AND THE MESSAGE FROM EARTH: WE'RE BREATHING AGAIN!

Man has landed on the Moon. A new era in his history began at 9.18 last night when the lunar module Eagle settled gently on the dusty surface of the Sea of Tranquility.

Message From Moon: Eagle Has Landed!

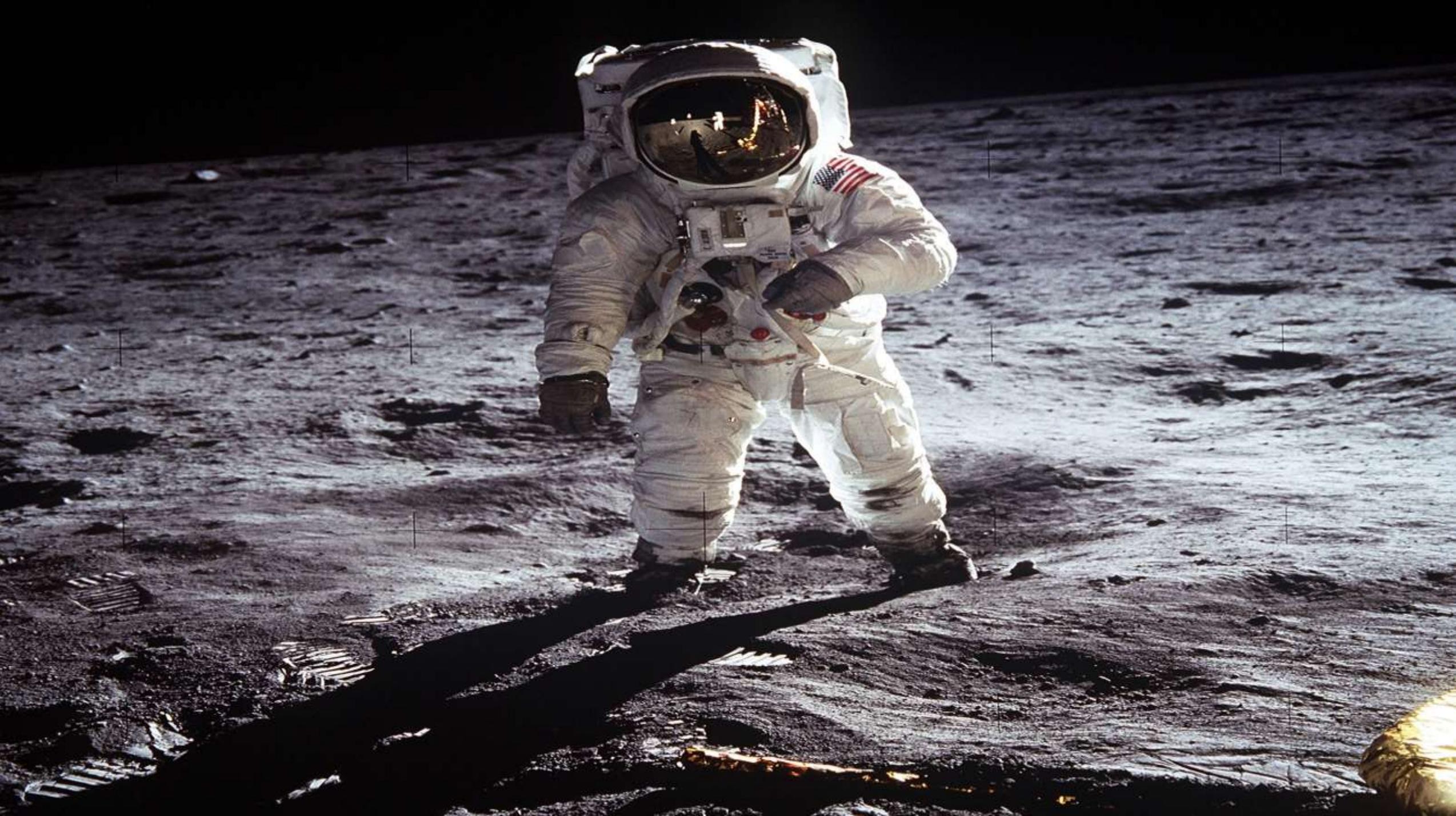
EAGLE (the lunar module): Houston, Tranquility is here. The Eagle has landed. HOUSTON: Roger, Tranquility, we copy you on the end. You've got a bunch of guys about to zoom here, be breathing again. Thanks a lot.



DID YOU KNOW?

AN ESTIMATED 6 MILLION PEOPLE ATTENDED PARADES IN NEW YORK AND CHICAGO TO CELEBRATE APOLLO 11'S SUCCESS ON THE MOON! YOU CAN WATCH PARADE FOOTAGE THROUGH THIS QR CODE!





COMMANDER ALAN SHEPARD OF THE APOLLO 14 MOON LANDING MISSION ACTUALLY PLAYED GOLF IN SPACE BY BRINGING SOME GOLF BALLS AND FASHIONING HIS OWN GOLF CLUB! FORE!

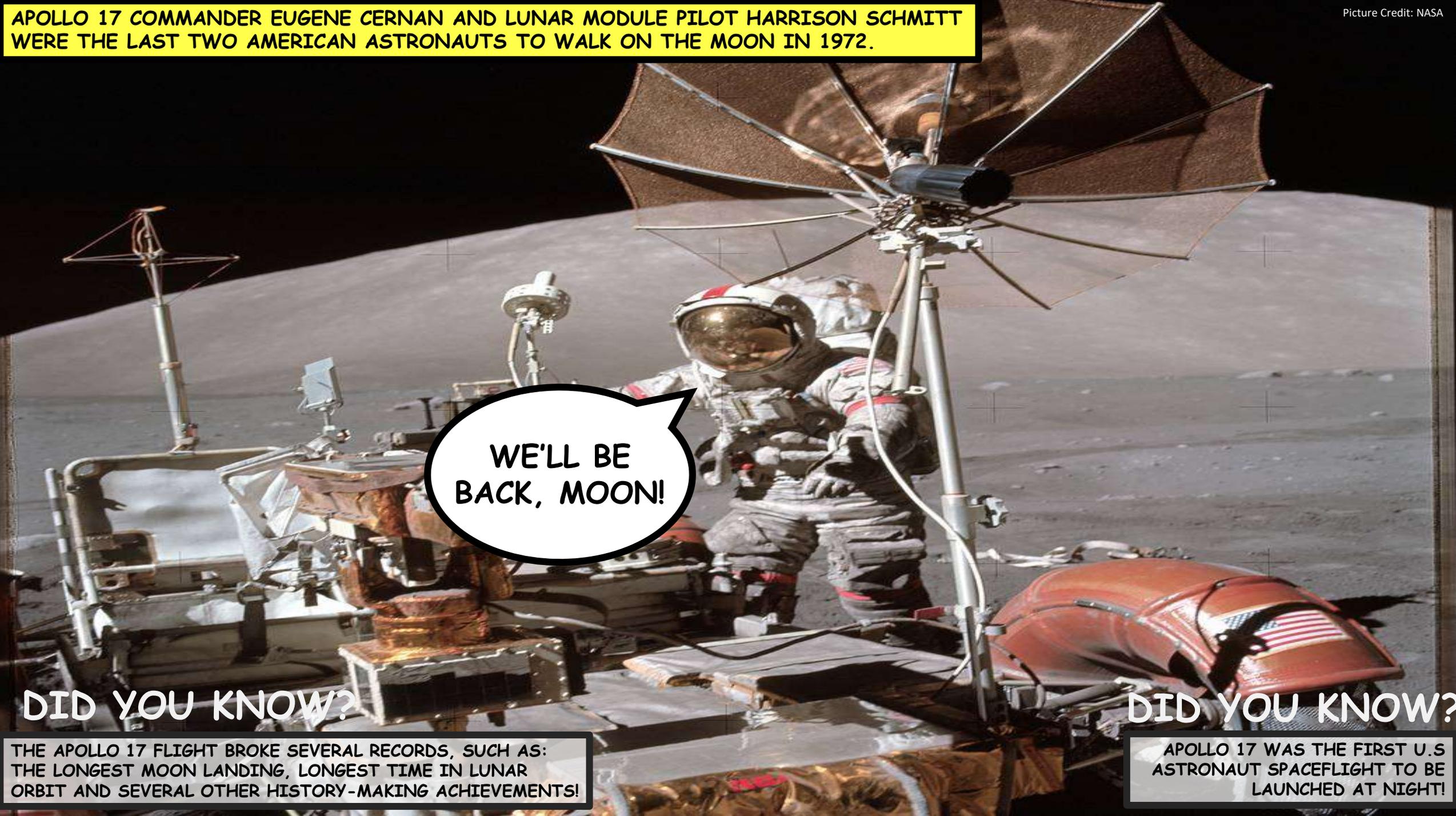
DID YOU KNOW?



10 HOURS
DOWN,
23 MORE
TO GO...

SUBSEQUENT APOLLO SPACE FLIGHTS PROVED INSTRUMENTAL IN FINDING OUT MORE ABOUT EARTH'S NATURAL SATELLITE, THE MOON, THOUGH WITH NOT AS MUCH MEDIA ATTENTION AS APOLLO 11.

APOLLO 17 COMMANDER EUGENE CERNAN AND LUNAR MODULE PILOT HARRISON SCHMITT WERE THE LAST TWO AMERICAN ASTRONAUTS TO WALK ON THE MOON IN 1972.



**WE'LL BE
BACK, MOON!**

DID YOU KNOW?

THE APOLLO 17 FLIGHT BROKE SEVERAL RECORDS, SUCH AS: THE LONGEST MOON LANDING, LONGEST TIME IN LUNAR ORBIT AND SEVERAL OTHER HISTORY-MAKING ACHIEVEMENTS!

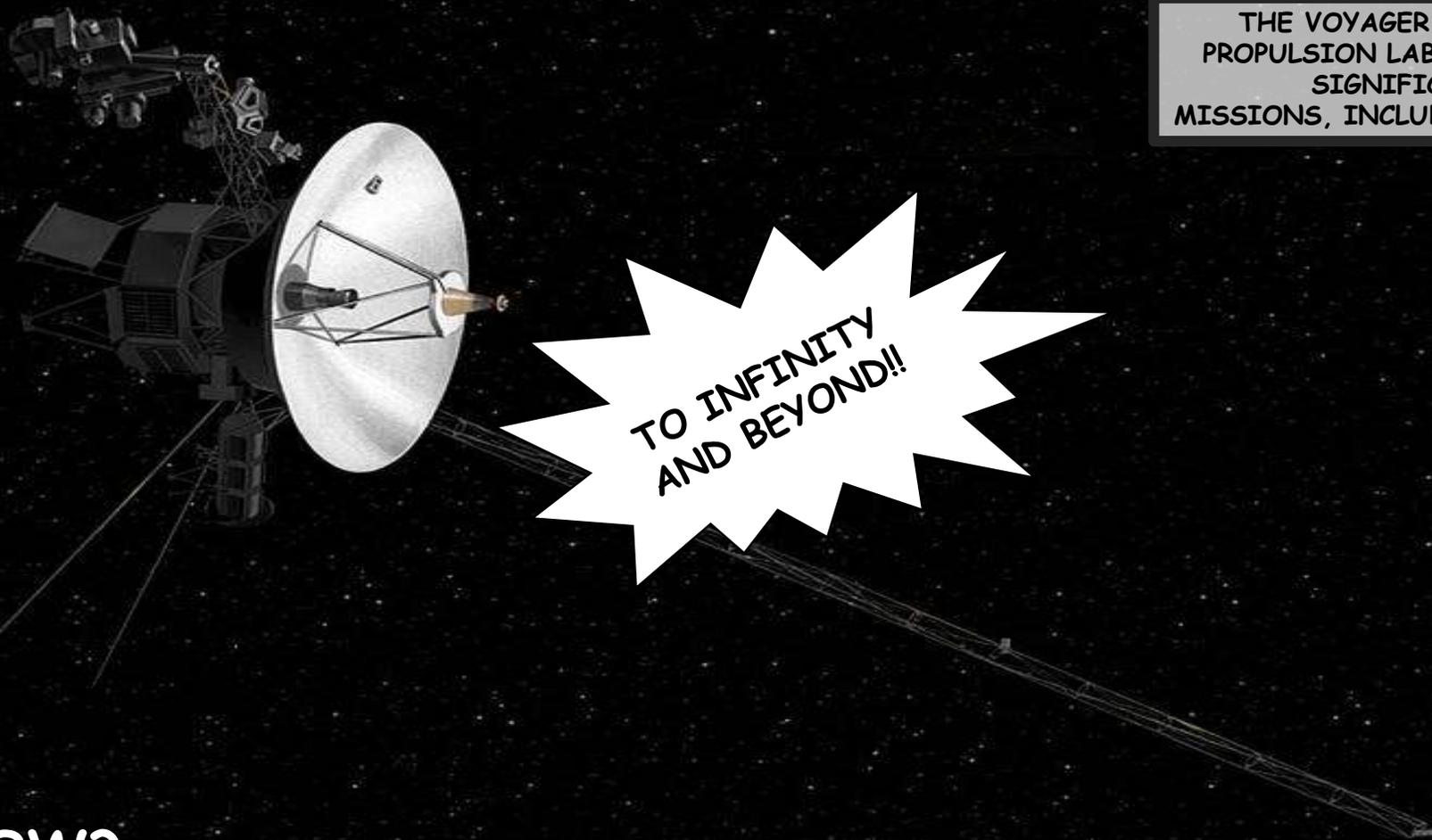
DID YOU KNOW?

APOLLO 17 WAS THE FIRST U.S. ASTRONAUT SPACEFLIGHT TO BE LAUNCHED AT NIGHT!

THE MOON LANDING OPENED UP NEW OPPORTUNITIES FOR SPACE PROGRAMS NEVER THOUGHT POSSIBLE BEFORE, SUCH AS LAUNCHING THE VOYAGER PROBES IN 1977 TO STUDY THE OUTER SOLAR SYSTEM.

DID YOU KNOW?

THE VOYAGER PROBES WERE MADE BY JET PROPULSION LABORATORY, WHICH PLAYED A SIGNIFICANT ROLE IN OTHER SPACE MISSIONS, INCLUDING THE VIKING PROGRAM!

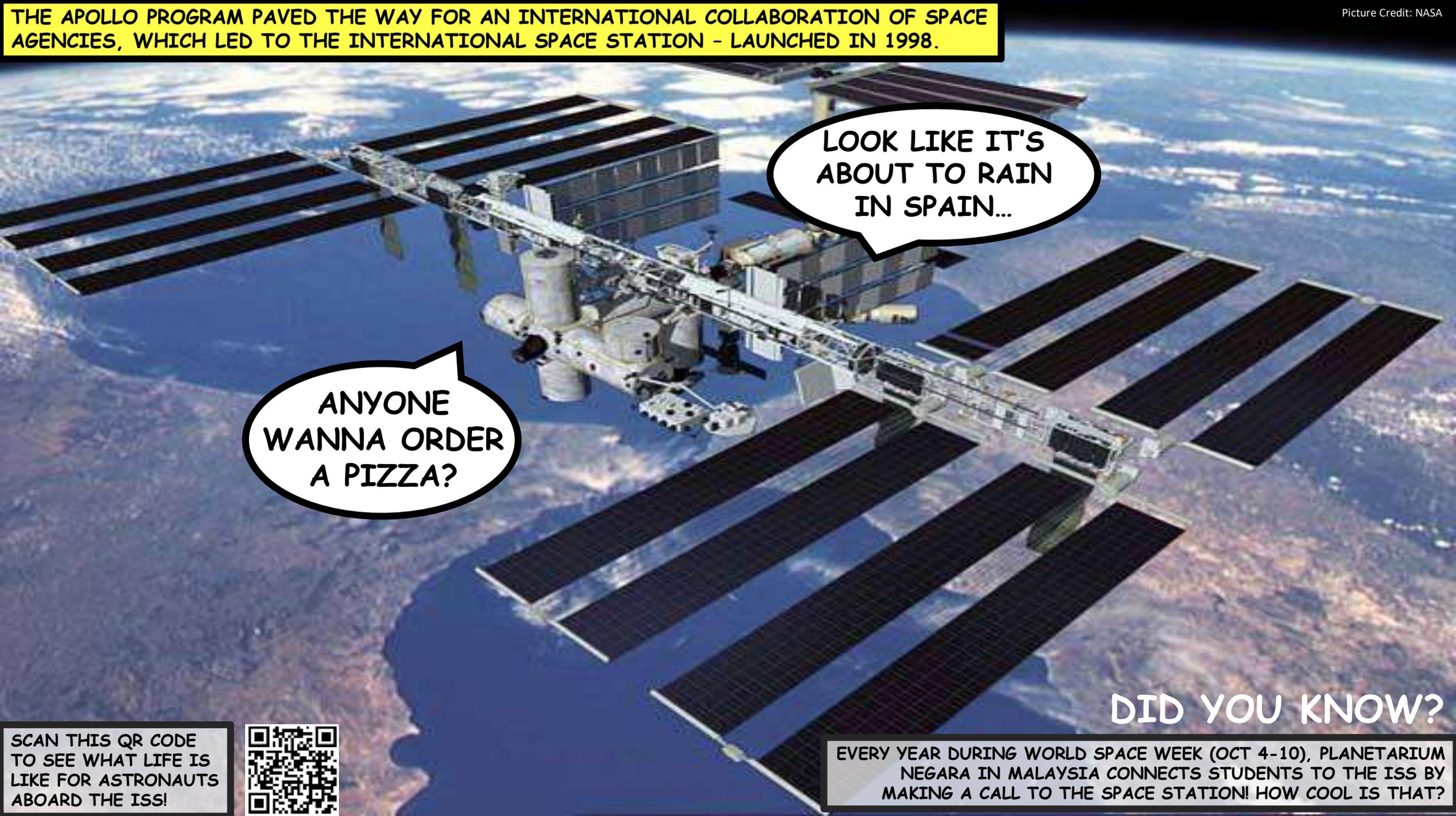


TO INFINITY AND BEYOND!!

DID YOU KNOW?

THE VOYAGER PROBES CARRY A GOLDEN DISC THAT CONTAINS SOUNDS AND IMAGES OF LIFE ON EARTH FOR ANY INTELLIGENT LIFE FORMS IN SPACE TO FIND! WE COME IN PEACE!

THE APOLLO PROGRAM PAVED THE WAY FOR AN INTERNATIONAL COLLABORATION OF SPACE AGENCIES, WHICH LED TO THE INTERNATIONAL SPACE STATION - LAUNCHED IN 1998.



ANYONE
WANNA ORDER
A PIZZA?

LOOK LIKE IT'S
ABOUT TO RAIN
IN SPAIN...

SCAN THIS QR CODE
TO SEE WHAT LIFE IS
LIKE FOR ASTRONAUTS
ABOARD THE ISS!



DID YOU KNOW?
EVERY YEAR DURING WORLD SPACE WEEK (OCT 4-10), PLANETARIUM
NEGARA IN MALAYSIA CONNECTS STUDENTS TO THE ISS BY
MAKING A CALL TO THE SPACE STATION! HOW COOL IS THAT?

THE SPACE EXPLORATION PROGRAM EVEN INSPIRED MALAYSIA TO ESTABLISH THE NATIONAL SPACE AGENCY (ANGKASA), LATER KNOWN AS THE MALAYSIAN SPACE AGENCY (MYSA) IN WHICH MALAYSIAN DR SHEIKH MUSZAPHAR SHUKOR BECAME THE 1ST MALAYSIAN ASTRONAUT IN SPACE ON OCTOBER 10, 2007.

ASPIRE TO BE THE NEXT MALAYSIAN ASTRONAUT? FIND OUT MORE HERE:
<http://www.angkasa.gov.my/>

MAKING TEH TARIK UP HERE WOULD BE A BAD IDEA...

DID YOU KNOW?

NOT ONLY IS DR SHEIKH AN ORTHOPEDIC SURGEON AT THE UNIVERSITI KEBANGSAAN MALAYSIA, HE IS ALSO A PART-TIME MODEL!

Picture Credit: NASA

CHECK OUT DR SHEIKH SHOWING HOW FLUIDS REACT IN OUTER SPACE THROUGH THIS QR CODE!



BOEING, ONE OF THE MANUFACTURERS OF THE ROVER CURIOSITY, HAS THE LARGEST BUILDING ON EARTH BY VOLUME - 13.3 MILLION CUBIC METERS! EMPLOYEES HAVE TO USE BICYCLES TO GET AROUND THE BUILDING! WHAT A WORKOUT!

DID YOU KNOW?



I THINK I'M GONNA HEAD ON R-OVER THERE

DID YOU KNOW?

THE CURIOSITY ROVER COMES EQUIPPED WITH A LASER THAT IS USED TO VAPORIZE ROCKS FOR FURTHER ANALYSIS! *PEW PEW*

NOW IN THE 21ST CENTURY, COLLABORATIVE PLANS BETWEEN SPACE AGENCIES AROUND THE WORLD ARE IN PROGRESS TO FURTHER STUDY AND ANALYZE THE RED PLANET, MARS.

WHILE DEVELOPING LIFE SUPPORT SYSTEMS FOR MARS MISSIONS, RESEARCHERS FUNDED BY NASA DISCOVERED A NATURAL SOURCE FOR AN OMEGA-3 FATTY ACID THAT IS NOW INCORPORATED INTO MORE THAN 90 PERCENT OF BABY FORMULAS ON THE MARKET.



DID YOU KNOW?

THE MARTIN MARIETTA CORPORATION, THE COMPANY THAT DISCOVERED THE NATURAL OMEGA-3 FATTY ACIDS, CAME UPON THIS DISCOVERY DURING A TEST ON CERTAIN STRAINS OF MICROALGAE AS A FOOD SUPPLY, OXYGEN SOURCE AND A CATALYST FOR WASTE DISPOSAL AS PART OF THE CONTROLLED ECOLOGICAL LIFE SUPPORT SYSTEM (CELSS) EXPERIMENTS! EUREKA!

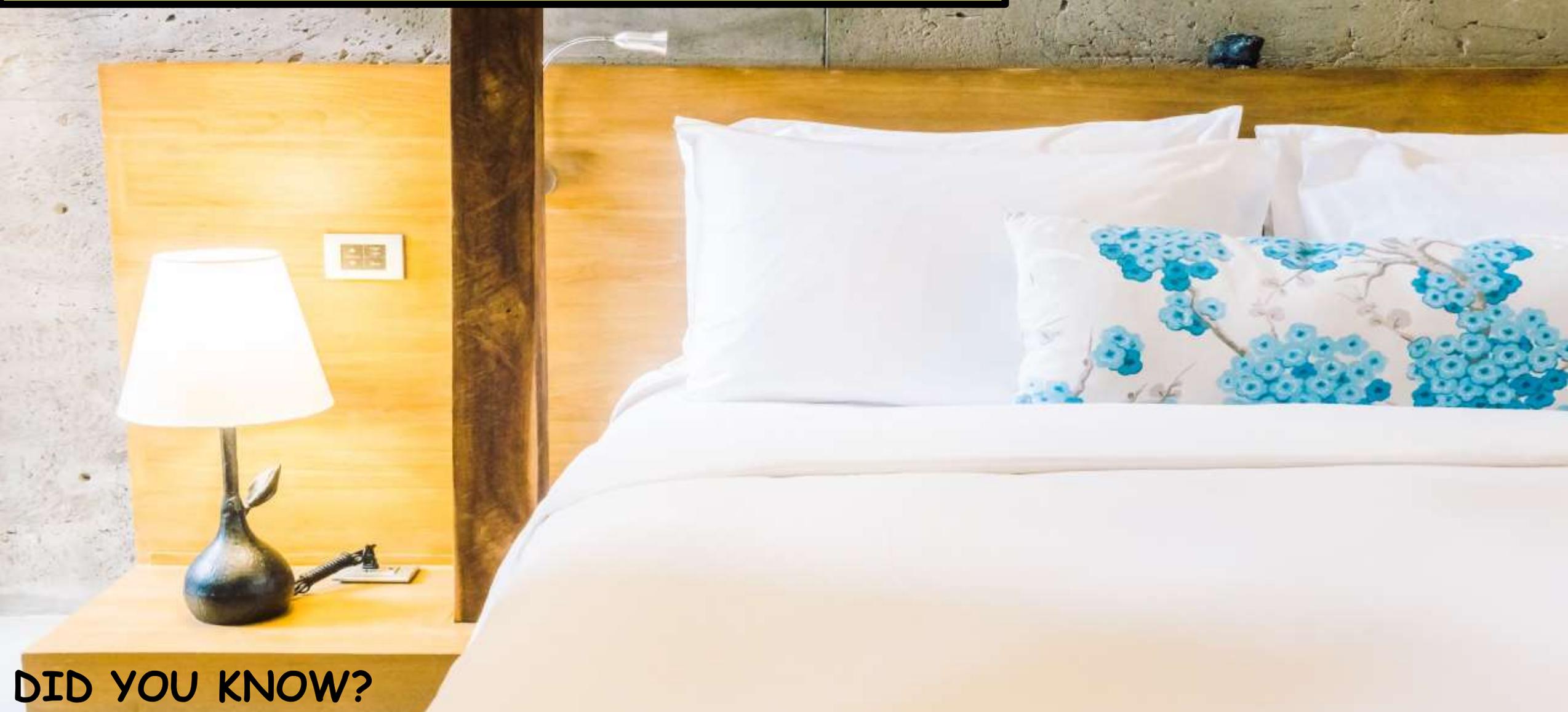
TAKING PICTURES AND VIDEOS USING A DSLR CAMERA, MOBILE PHONE CAMERA OR EVEN A GOPRO CAMERA IS MADE POSSIBLE THANKS TO NASA TECHNOLOGY.



DID YOU KNOW?

IN ORDER TO MAKE THE CAMERA SIGNIFICANTLY SMALLER FOR MORE MOBILITY AND EASE, JET PROPULSION LABORATORY (JPL) CONDUCTED TONS OF RESEARCH INTO IMPROVING THE COMPLEMENTARY METAL-OXIDE SEMICONDUCTOR (CMOS) IMAGE SENSORS DURING THE 1990S, EVENTUALLY MAKING THE CAMERAS THAT WE ARE FAMILIAR WITH TODAY!

ONE OF THE MOST RECOGNIZED COMMERCIAL PRODUCTS TO COME OUT OF THE NASA SPACE PROGRAM WOULD HAVE TO BE MEMORY FOAM, WHICH WAS INVENTED BY NASA-FUNDED RESEARCHERS LOOKING FOR WAYS TO KEEP TEST PILOTS CUSHIONED DURING FLIGHTS.



DID YOU KNOW?

THE DEVELOPER OF MEMORY FOAM, CHARLES YOST, ORIGINALLY MADE MEMORY FOAM TO IMPROVE AIRLINE SEATING FOR CRASH AND VIBRATION PROTECTION, BUT SENSING ITS NEAR-LIMITLESS POTENTIAL, EXPANDED ITS APPLICATION TO OTHER INDUSTRIES, FROM COMFY BEDS TO PADDING IN FOOTBALL HELMETS! INGENIOUS!

WOMEN WHO HAVE MADE SIGNIFICANT CONTRIBUTIONS TO THE SPACE PROGRAM INCLUDE KATHERINE JOHNSON, AN AMERICAN MATHEMATICIAN WHOSE INVALUABLE CALCULATIONS OF ORBITAL MECHANICS WERE CRITICAL TO THE SUCCESS OF THE FIRST AND SUBSEQUENT U.S. MANNED SPACEFLIGHTS.



DID YOU KNOW?

KATHERINE JOHNSON WAS SO IMPORTANT TO THE SPACE PROGRAM THAT AMERICAN ASTRONAUT, JOHN GLENN, REFUSED TO ORBIT AROUND EARTH UNLESS KATHERINE HAD PERSONALLY VERIFIED THE CALCULATIONS, NOT TRUSTING THE ELECTRONIC COMPUTERS THAT TABULATED THE NUMBERS.

DID YOU KNOW?

IN 2016, A MOVIE CALLED "HIDDEN FIGURES" WAS RELEASED, DEPICTING THE SIGNIFICANT ROLE KATHERINE AND OTHER WOMEN PLAYED FOR NASA. SCAN THE QR CODE TO WATCH THE TRAILER!



SALLY RIDE IS FAMOUS FOR HER PIONEERING WORK IN DEVELOPING THE SPACE SHUTTLE ROBOTIC ARM, WHICH SHE USED TO RETRIEVE A SATELLITE, THEREBY MAKING HER THE FIRST PERSON TO USE THE ARM IN SPACE.

OUT OF THE 61 FEMALE ASTRONAUTS WHO HAVE BEEN TO SPACE, THE U.S. DWARFS THE REST OF THE WORLD, SENDING A TOTAL OF 45 FEMALE ASTRONAUTS INTO SPACE SINCE 1983!

DID YOU KNOW?

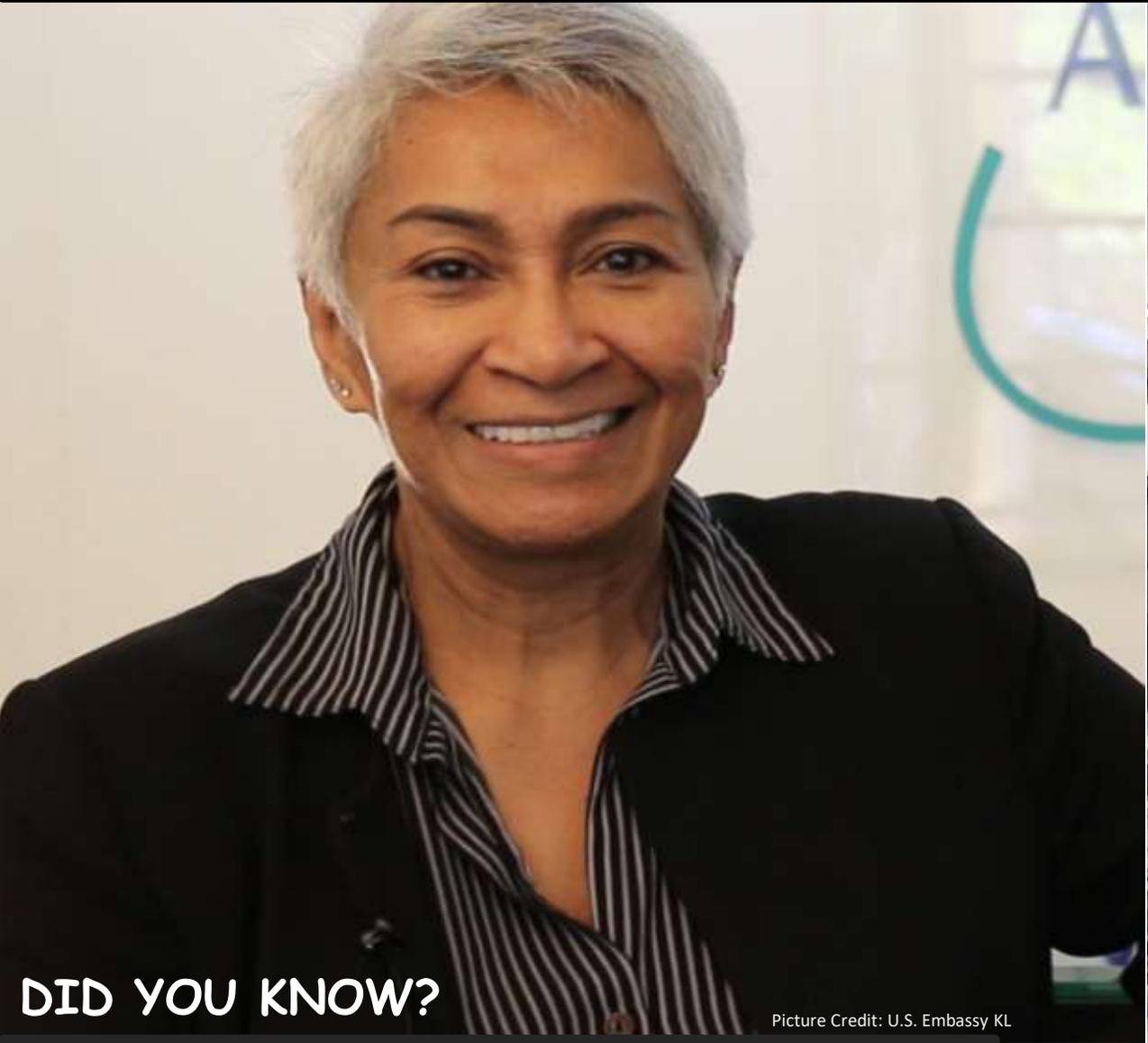
DID YOU KNOW?



ON JUNE 18, 1983, SALLY RIDE BROKE THE GLASS CEILING BY BEING THE FIRST FEMALE AMERICAN ASTRONAUT TO GO INTO SPACE. SHE IS ALSO RECOGNIZED AS BEING THE YOUNGEST AMERICAN ASTRONAUT AND SHE ACTED AS THE CAPSULE COMMUNICATOR FOR THE SECOND AND THIRD SHUTTLE FLIGHTS IN NASA'S HISTORY.

MALAYSIAN-BORN DATUK MAZLAN OTHMAN IS THE COUNTRY'S FIRST-EVER ASTROPHYSICIST. SHE WAS SELECTED BY PRIME MINISTER MAHATHIR BIN MOHAMAD IN 2002 TO SERVE AS THE FOUNDING DIRECTOR OF THE MALAYSIAN NATIONAL SPACE AGENCY (ANGKASA).

DR. AMANI WAS ENTRUSTED TO LEAD MORE THAN 30 SCIENTISTS, ENGINEERS AND TECHNOLOGISTS TO WORK ON NASA'S FIRST EVER ASTROBIOLOGY PROGRAM CALLED, SPORESAT, TO TEST HOW LIVING CELLS WOULD RESPOND TO THE LACK OF GRAVITY TO GAIN A DEEPER KNOWLEDGE OF THE MECHANISMS OF PLANT CELL GRAVITY SENSING.



Picture Credit: Dr Amani Wan Salim

DID YOU KNOW?

DID YOU KNOW?

Picture Credit: U.S. Embassy KL

BEFORE BECOMING THE DIRECTOR GENERAL FOR ANGKASA, DATUK MAZLAN WAS APPOINTED AS THE DIRECTOR OF THE UNITED NATIONS OFFICE FOR OUTER SPACE AFFAIRS (UNOOSA) IN 1999. SHE WAS REAPPOINTED THE DIRECTOR IN 2007 AFTER SERVING ANGKASA IN MALAYSIA FOR 5 YEARS! SCAN THE QR CODE TO WATCH A WOMEN'S HISTORY MONTH VIDEO OF HER, PRODUCED BY U.S. EMBASSY KUALA LUMPUR!



ANOTHER FEMALE MALAYSIAN SCIENTIST TO BE PROUD OF IS DR. WAN WARDATUL AMANI WAN SALIM, WHO WORKED WITH NASA AND WAS THE FIRST MALAYSIAN TO LAUNCH A SATELLITE TO SPACE IN 2014, WHEN SHE WAS JUST 36 YEARS OLD!

Picture Reference

Slide 1: https://www.nasa.gov/multimedia/imagegallery/image_feature_924.html

Slide 2: <https://history.nasa.gov/moondec.html>

Slide 3: <https://www.flickr.com/photos/nasacommons/9460200452/in/album-72157634973926806/>

Slide 4: <https://www.nasa.gov/image-feature/preparing-for-apollo-11>

Slide 5: <https://history.nasa.gov/ap11ann/kippsphotos/69-H-365.jpg>

Slide 6: <https://images.nasa.gov/details-KSC-69PC-393.html>

Slide 7: Don Baida

Slide 8: <https://www.nasa.gov/apollo11-gallery>

Slide 9: <https://www.nasa.gov/apollo11-gallery>

Slide 10: <https://www.nasa.gov/apollo11-gallery>

Slide 11: https://www.nasa.gov/multimedia/imagegallery/image_feature_1429.html

Slide 12: <https://www.nasa.gov/apollo11-gallery>

Slide 13: <https://www.nasa.gov/image-feature/astronaut-edgar-d-mitchell-operates-active-seismic-experiment>

Slide 14: <https://www.nasa.gov/centers/marshall/history/this-week-in-nasa-history-apollo-17-splashes-down-dec-19-1972.html>

Slide 15: https://www.nasa.gov/mission_pages/voyager/multimedia/voyager-spacecraft.html

Slide 16: <https://www.flickr.com/photos/nasacommons/9460192910/in/album-72157634973926806/>

Slide 17: <https://www.nasa.gov/directorates/heo/scan/services/missions/other/ISS.html>

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Slide 19: <https://www.nasa.gov/image-feature/jpl/pia20844/curiosity-self-portrait-at-murray-buttes/>

Slide 20: https://www.freepik.com/free-photo/baby-girl-drinking-milk-from-baby-bottle-mother-feeding-daughter-from-bottle_2788675.htm#page=1&index=23&query=baby%20drinking%20milk

Slide 21: https://www.freepik.com/free-photo/woman-s-hand-taking-photo-breakfast-wooden-table-through-cell-phone_2718754.htm

Slide 22: https://www.freepik.com/free-photo/pillow-bed_3962979.htm

Slide 23: <https://www.nasa.gov/image-feature/research-mathematician-katherine-johnson-1980>

Slide 24: <https://www.nasa.gov/centers/marshall/history/this-week-in-nasa-history-sally-ride-becomes-first-american-woman-in-space-june-18.html>

Slide 25: U.S Embassy KL/ Dr Amani Wan Salim